CLAIMS

What is claimed is:

1. A display apparatus comprising:

a display medium;

a transparent substrate;

a non-transparent substrate, said display medium being disposed between said transparent substrate and said non-transparent substrate; and

an adhesive material coupling said transparent substrate and said non-transparent substrate said adhesive material being disposed proximate to a channel which is in at least one of said transparent substrate and non-transparent substrate.

2. An apparatus, as in claim 1, wherein said display medium is a liquid crystal material.

3. An apparatus, as in claim 1, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with silicon.

4. An apparatus, as in claim 1, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with glass.

5. An apparatus, as in claim 2, wherein at least one of said transparent substrate and said non-transparent substrate is an integrated circuit.

6. An apparatus, as recited in claim 1, wherein said adhesive material is disposed adjacent to said channel.

7. An apparatus, as recited in claim 1, wherein a flow of the adhesive material in a direction away from a display area is minimized.

8. An optical apparatus comprising:

a non-transparent substrate;

a transparent substrate;

a channel, formed in at least one of said transparent substrate and said non-transparent substrate, to receive a flow of adhesive material disposed proximate to said channel;

wherein the adhesive material is disposed between said transparent substrate and said non-transparent substrate and couples said transparent substrate and said non-transparent substrate together.

9. An apparatus, as in claim 8, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with silicon.

10. An apparatus, as recited in claim 8, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with glass.

11. An apparatus, as recited in claim 8, wherein the adhesive material is disposed adjacent to said channel.

12. An apparatus, as recited in claim 8, wherein a flow of the adhesive material in a direction away from a display area is minimized.

13. An apparatus, as in claim 8, further comprising a display medium.

14. An apparatus, as in claim 13, wherein said display medium is a liquid crystal material.

15. An apparatus, as in claim 8, further comprising at least a first metal layer and a second metal layer.

16. An apparatus, as in claim 8, further comprising a passivation dielectric layer.

17. An apparatus, as in claim 16, further comprising a liquid crystal material wherein said liquid crystal material is disposed between said transparent substrate and said non-transparent substrate.

18. An apparatus, as recited in claim 17, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with glass.

19. An apparatus, as in claim 18, wherein at least one of said transparent substrate and said non-transparent substrate has a conductive layer coupled therewith.

20. An apparatus, as in claim 19, further comprising a conductive crossover material wherein said conductive crossover material is disposed between said conductive layer and at least one of said first metal layer and said second metal layer.

21. An apparatus, as in claim 20, further comprising at least one bond pad coupled with at least one of said first metal layer and said second metal layer.

22. An optical apparatus comprising:

a non-transparent substrate;

a transparent substrate;

an adhesive material disposed on at least one of said transparent substrate and said non-transparent substrate; and

a channel, formed in at least one of said transparent substrate and said non-transparent substrate, to receive a flow of said adhesive material.

23. An apparatus, as recited in claim 22, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with silicon.

24. An apparatus, as recited in claim 22, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with glass.

25. An apparatus, as recited in claim 22, wherein said adhesive material is disposed adjacent to said channel.

26. An apparatus, as recited in claim 22, wherein a flow of said adhesive material in a direction away from a display area is minimized.

27. An apparatus, as in claim 22, further comprising a display medium.

28. An apparatus, as in claim 26, wherein said display medium is a liquid crystal material.

29. An apparatus, as in claim 22, further comprising at least a first metal layer and a second metal layer.

30. An apparatus, as in claim 29, further comprising a passivation dielectric layer.

31. An apparatus, as in claim 30, further comprising a display medium.

32. An apparatus, as in claim 31, further comprising a liquid crystal material.

33. An apparatus, as in claim 32, wherein at least one of said transparent substrate and said non-transparent substrate having a conductive layer coupled therewith.

34. An apparatus, as in claim 33, further comprising a conductive crossover material wherein said conductive crossover material is disposed between said conductive layer and at least one of said first metal layer and said second metal layer.

35. An apparatus, as in claim 34, further comprising at least one bond pad coupled with at least one of said first metal layer and said second metal layer.

36. A semiconductor method comprising:

applying a channel resist mask to at least one of a transparent substrate and a non-transparent substrate; and

applying a dielectric-etch to form a channel, in at least one of the transparent substrate and the non-transparent substrate, to receive a flow of adhesive material.

37. A method, as in claim 36, wherein the dielectric-etch is fluorine based.

38. A method, as in claim 36, wherein at least one of the transparent substrate and the non-transparent substrate is made, at least in part, with silicon.

39. A method, as in claim 36, wherein said method further comprises depositing passivation dielectric onto at least one of the transparent substrate and the non-transparent substrate.

40. A method, as in claim 36, wherein said method further comprises removing the channel resist mask.

41. A method, as in claim 40, further comprising applying a pad resist mask.

42. A method, as in claim 41, further comprising applying a dielectric-etch.

43. A method, as in claim 42, wherein the dielectric-etch is fluorine based.

44. A method, as in claim 36, wherein said method further comprises applying a metal mask.

45. A method, as in claim 44, wherein said method further comprises applying a metal-etch.

46. A method, as in claim 45, wherein the metal etch is chlorine based.

47. A method, as in claim 36, wherein said method further comprises dispensing the adhesive material along the channel.

48. A method, as in claim 47, wherein said method further comprises depositing a liquid crystal (LC) material on at least one of the transparent substrate and the non-transparent substrate, within an area bounded by the channel.

49. A method, as in claim 48, wherein said method further comprises applying a conductive crossover material to at least one location on at least one of the transparent substrate and the non-transparent substrate.

50. A method, as in claim 49, wherein said method further comprises coupling a conductive layer to at least one of the transparent substrate and the non-transparent substrate and wherein the LC material and the conductive crossover material is contained between the transparent substrate and the non-transparent substrate.

51. A semiconductor method comprising:

applying a channel resist mask to at least one of a transparent substrate and a non-transparent substrate;

applying a dielectric-etch to form a channel in at least one of the transparent substrate and the non-transparent substrate; and

dispensing adhesive material proximate to the channel.

52. A method, as in claim 51, wherein the dielectric-etch is fluorine based.

53. A method, as in claim 51, wherein at least one of the transparent substrate and the non-transparent substrate is made, at least in part, with silicon.

54. A method, as in claim 51, wherein said method further comprises depositing passivation dielectric onto at least one of the transparent substrate and the non-transparent substrate.

55. A method, as in claim 51, wherein said method further comprises removing the channel resist mask.

56. A method, as in claim 55, wherein said method further comprises depositing a passivation dielectric onto at least one of the transparent substrate and the non-transparent substrate.

57. A method, as in claim 56, wherein said method further comprises applying a pad resist mask.

58. A method, as in claim 53, wherein said method further comprises applying a metal mask.

59. A method, as in claim 58, wherein said method further comprises applying a metal-etch.

60. A method, as in claim 59, wherein the metal-etch is chlorine based.

61. A method, as in claim 51, wherein said method further comprises depositing a liquid crystal (LC) material on at least one of the transparent substrate and the non-transparent substrate, within an area bounded by the channel.

62. A method, as in claim 61, wherein said method further comprises applying a conductive crossover material to at least one location on at least one of the transparent substrate and the non-transparent substrate.

63. A method, as in claim 62, wherein said method further comprises coupling a conductive layer coupled to at least one of the transparent substrate and the non-transparent substrate and wherein the LC material and the conductive crossover material is contained between the transparent substrate and the non-transparent substrate.

64. An optical apparatus comprising:

means for applying a channel resist mask to a substrate; and

means for applying a dielectric-etch to form a channel, in the substrate, to receive a flow of adhesive material.

65. An optical apparatus comprising:

means for applying a channel resist mask to a substrate;

means for applying a dielectric-etch to form a channel in the substrate; and

means for dispensing adhesive material proximate to the channel.

66. An optical apparatus comprising:

a non-transparent substrate;

a transparent substrate;

a channel, formed in at least one of said transparent substrate and said non-transparent substrate, to receive a flow of adhesive material disposed adjacent to said channel;

wherein the adhesive material is disposed between said transparent substrate and said non-transparent substrate and couples said transparent substrate and said non-transparent substrate together.

67. An apparatus, as in claim 66, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with silicon.

68. An apparatus, as recited in claim 66, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with glass.

69. An apparatus, as recited in claim 66, wherein the adhesive material is disposed adjacent to said channel.

70. An apparatus, as recited in claim 66, wherein a flow of the adhesive material in a direction away from a display area is minimized.

71. An apparatus, as in claim 66, further comprising a display medium.

72. An apparatus, as in claim 71, wherein said display medium is a liquid crystal material.

73. An apparatus, as in claim 66, further comprising at least a first metal layer and a second metal layer.

74. An apparatus, as in claim 66, further comprising a passivation dielectric layer.

75. An apparatus, as in claim 71, further comprising a liquid crystal material wherein said liquid crystal material is disposed between said transparent substrate and said non-transparent substrate.

76. An apparatus, as recited in claim 75, wherein at least one of said transparent substrate and said non-transparent substrate is made, at least in part, with glass.

77. An apparatus, as in claim 76, wherein at least one of said transparent substrate and said non-transparent substrate has a conductive layer coupled therewith.

78. An apparatus, as in claim 77, further comprising a conductive crossover material wherein said conductive crossover material is disposed between said

conductive layer and at least one of said first metal layer and said second metal layer.

79. An apparatus, as in claim 78, further comprising at least one bond pad coupled with at least one of said first metal layer and said second metal layer.

80. A semiconductor method comprising:

applying a channel resist mask to at least one of a transparent substrate and a non-transparent substrate; and

applying a dielectric-etch to form a channel, in at least one of the transparent substrate and the non-transparent substrate, to receive a flow of adhesive material disposed adjacent to the channel.

81. A method, as in claim 80, wherein the dielectric-etch is fluorine based.

82. A method, as in claim 80, wherein at least one of the transparent substrate and the non-transparent substrate is made, at least in part, with silicon.

83. A method, as in claim 80, wherein said method further comprises depositing passivation dielectric onto at least one of the transparent substrate and the non-transparent substrate.

84. A method, as in claim 80, wherein said method further comprises removing the channel resist mask.

85. A method, as in claim 84, further comprising applying a pad resist mask.

86. A method, as in claim 85, further comprising applying a dielectric-etch.

87. A method, as in claim 86, wherein the dielectric-etch is fluorine based.

88. A method, as in claim 80, wherein said method further comprises applying a metal mask.

89. A method, as in claim 88, wherein said method further comprises applying a metal-etch.

90. A method, as in claim 89, wherein the metal etch is chlorine based.

91. A method, as in claim 80, wherein said method further comprises dispensing the adhesive material along the channel.

92. A method, as in claim 91, wherein said method further comprises depositing a liquid crystal (LC) material on at least one of the transparent substrate and the non-transparent substrate, within an area bounded by the channel.

93. A method, as in claim 92, wherein said method further comprises applying a conductive crossover material to at least one location on at least one of the transparent substrate and the non-transparent substrate.

94. A method, as in claim 93, wherein said method further comprises coupling a conductive layer to at least one of the transparent substrate and the non-transparent substrate and wherein the LC material and the conductive crossover material is contained between the transparent substrate and the non-transparent substrate.